Claims

1-15 (Canceled)

16. A body insertable stent, including:

at least one wire wound about an axis to form a flexible self-expanding tubular mesh wall having a proximal end and a proximal end region including the proximal end, a distal end and a distal end region including the distal end, and a medial region disposed between the proximal end region and the distal end region;

wherein the at least one wire is wound to form multiple crossing points at which different portions of the at least one wire cross each other, and the crossing points are distributed over an axial length of the tubular mesh wall from the proximal end to the distal end;

wherein said portions of the at least one wire are locally shaped at selected ones of the crossing points to provide respective pairs of elevations extended radially away from the tubular mesh wall, with the elevations of each pair engaging one another to restrict relative movement of their associated portions of the at least one wire; and

wherein the selected crossing points are distributed at a higher density in at least one of the proximal end region and the distal end region, as compared to the medial region, to impart a higher shape stability.

17. The stent of claim 16 wherein:

the selected crossing points are distributed at higher densities in the proximal end region and in the distal end region, as compared to the medial region.

18. The stent of claim 17 wherein:

the selected crossing points are distributed at said higher densities at the proximal end and at the distal end.

19. The stent of claim 16 wherein:

the elevations extend radially outwardly from the tubular mesh wall.

20. The stent of claim 16 wherein:

the elevations have heights in the radial direction from the tubular mesh wall of approximately one to two times the diameter of the at least one wire.

21. The stent of claim 16 wherein:

said at least one wire comprises a plurality of first wires helically wound in a first direction, and a plurality of second wires wound helically in a second direction and braided with the first wires, whereby each of the crossing points includes one of the first wires and one of the second wires.

22. The stent of claim 21 wherein:

the elevations are arranged in a helical elevation pattern on the tubular mesh wall.

23. The stent of claim 22 wherein:

the first wires are helically wound at a first pitch, the second wires are helically wound at a second pitch different from the first pitch, and the helical elevation pattern has a third pitch different from the first pitch and the second pitch.

24. The stent of claim 23 wherein:

the first and second wires cooperate to form braiding angles that are substantially uniform over the axial length of the tubular mesh wall.

25. The stent of claim 16 wherein:

the elevations are arranged in at least one annular elevation pattern extending circumferentially about the tubular mesh wall in at least one of the proximal end region and the distal end region.

26. The stent of claim 25 wherein:

the at least one annular elevation pattern is disposed near one of the proximal and distal ends.

27. The stent of claim 25 wherein:

the at least one annular elevation pattern includes a first annular elevation pattern in the proximal end region, and a second annular elevation pattern in the distal end region.

28. The stent of claim 27 wherein:

the at least one annular elevation pattern further includes an annular elevation pattern in the medial region.

29. The stent of claim 16 wherein:

each of the elevations has a continuous smoothly inclining and declining curvature.

30. The stent of claim 16 wherein:

the tubular mesh wall has a substantially uniform diameter.

31. A stent insertable into the body passageway, including:

a flexible self-expanding braided tubular wall comprising at least one first wire helically wound at a first pitch and at least one second wire helically wound at a second pitch different from the first pitch whereby the first and second wires cooperate to form multiple crossing points of the at least one first wire and the at least one second wire;

wherein at selected ones of the crossing points, each of the first wire and the second wire is shaped to form an elevation extended away from the braided tubular wall in a selected direction radially of the braided tubular wall; and

wherein said elevations are arranged in at least one elevation pattern on the braided tubular wall, and the at least one elevation pattern has a third pitch different from the first pitch and different from the second pitch.

32. the stent of claim 31 wherein:

the third pitch is less than the first pitch, and less than the second pitch.

33. the stent of claim 31 wherein:

the stent has respective proximal and distal ends, and the elevations at the selected crossing points are arranged more densely near at least one of the proximal and distal ends as compared to a medial region of the stent.

34. The stent of claim 33 wherein:

the elevations are arranged in at least one annular elevation pattern extending circumferentially about the braided tubular wall.

35. The stent of claim 34 wherein:

the at least one annular elevation pattern is disposed near one of the proximal and distal ends.

36. The stent of claim 34 wherein:

the at least one annular elevation pattern includes a first annular elevation pattern near the proximal end, and a second annular elevation pattern near the distal end.

37. The stent of claim 36 wherein:

the at least one annular elevation pattern further includes an annular elevation pattern in the medial region.

38. The stent of claim 33 wherein:

the selected crossing points are arranged more densely proximate said proximal end and proximate said distal end, as compared to the medial region.

39. The stent of claim 38 wherein:

the at least one elevation pattern includes a first annular elevation pattern extending circumferentially about the braided tubular wall near the proximal end, and a second annular elevation pattern extending circumferentially about the braided tubular wall near the distal end.

40. the stent of claim 31 wherein:

said elevations extend radially outwardly from the braided tubular wall.

41. The stent of claim 31 wherein:

the elevations have heights in the radial direction from the braided tubular wall of approximately one to two times the diameter of the helically wound wires.

42. The stent of claim 31 wherein:

the elevations are arranged in a helical elevation pattern on the braided tubular wall.

43. A body insertable stent, including:

a flexible self-expanding braided tubular wall comprising at least one first wire helically wound at a first pitch and at least one second wire helically wound at a second pitch different

from the first pitch whereby the first and second wires cooperate to form multiple crossing points of the at least one first wire and the at least one second wire;

wherein at a number of selected ones of the crossing points, said number being substantially less than the total number of crossing points, each of the first wire and the second wire is shaped to form respective first and second elevations extended in the same direction radially away from the braided tubular wall; and

wherein said elevations are arranged in at least one elevation pattern on the braided tubular wall.

44. The stent of claim 43 wherein:

said elevations extend radially outwardly from the braided tubular wall.

45. The stent of claim 43 wherein:

the at least one elevation pattern has a third pitch different from the first pitch and different from the second pitch.

46. The stent of claim 43 wherein:

the elevations have heights in the radial direction from the braided tubular wall of approximately one to two times the diameter of the helically wound wire.

47. The stent of claim 43 wherein:

the stent has respective proximal and distal ends, and the elevations at the selected crossing points are arranged more densely at at least one of the proximal and distal ends as compared to a medial region of the stent.

48. The stent of claim 47 wherein:

the elevations are arranged in at least one helical elevation pattern on the braided tubular wall.

49. The stent of claim 47 wherein:

the elevations are arranged in at least one annular elevation pattern extending circumferentially about the braided tubular wall.

50. The stent of claim 49 wherein:

the at least one annular elevation pattern is disposed near one of the proximal and distal ends.

51. The stent of claim 49 wherein:

the at least one annular elevation pattern includes a first annular elevation pattern near the proximal end, and a second annular elevation pattern near the distal end.

52. The stent of claim 51 wherein:

the at least one annular elevation pattern further includes an annular elevation pattern in the medial region.

53. The stent of claim 47 wherein:

the selected crossing points are arranged more densely proximate said proximal end and proximate said distal end, as compared to the medial region.

54. The stent of claim 53 wherein:

the at least one elevation pattern includes a first annular elevation pattern extending circumferentially about the braided tubular wall near the proximal end, and a second annular elevation pattern extending circumferentially about the braided tubular wall near the distal end.

55. A body insertable prosthesis, including:

a flexible self-expanding tubular mesh wall having a proximal end and a proximal end region including the proximal end, a distal end and distal end region including the distal end, and a medial region disposed between the proximal end region and the distal end region;

wherein the tubular mesh wall includes a plurality of elongate wall segments cooperating to form multiple crossing points at which different ones of the elongate wall segments cross each other, with the crossing points distributed over an axial length of the tubular mesh wall from the proximal end to the distal end;

wherein the elongate wall segments are shaped at selected ones of the crossing points to provide respective pairs of elevations extended radially away from the tubular mesh wall, with

the elevations of each pair engaging one another to restrict relative movement of their associated wall segments; and

wherein the selected crossing points are distributed at a higher density in at least one of the proximal end region and the distal end region as compared to the medial region, to impart a higher shape stability.

56. The prosthesis of claim 55 wherein:

the selected crossing points are distributed at higher densities in the proximal end region and in the distal end region, as compared to the medial region.

57. The prosthesis of claim 56 wherein:

the selected crossing points are distributed at said higher densities at the proximal end and at the distal end.

58. The prosthesis of claim 55 wherein:

the elevations extend radially outwardly from the tubular mesh wall.

59. The prosthesis of claim 55 wherein:

said elongate wall segments comprise at least one first wire helically wound at a first pitch, and at least one second wire wound helically at a second pitch different from the first pitch and braided with the at least one first wire.

60. The prosthesis of claim 59 wherein:

the elevations are arranged in a helical elevation pattern on the tubular mesh wall having a third pitch different from the first pitch and different from the second pitch.

61. The prosthesis of claim 55 wherein:

the elevations are arranged in at least one annular elevation pattern extending circumferentially about the tubular mesh wall in at least one of the proximal end region and the distal end region.

62. The prosthesis of claim 61 wherein:

the at least one annular elevation pattern is disposed near one of the proximal and distal ends.

63. The prosthesis of claim 61 wherein:

the at least one annular elevation pattern includes a first annular elevation pattern in the proximal end region, and a second annular elevation pattern in the distal end region.

64. The prosthesis of claim 55 wherein:

the tubular mesh wall comprises at least one wire wound to form said crossing points, and said wall segments comprise different length-portions of the at least one wire.

65. The prosthesis of claim 64 wherein:

the elevations have heights in the radial direction from the tubular mesh wall of approximately one to two times the diameter of the at least one wire.

66. A body insertable prosthesis, including:

a flexible self-expanding tubular mesh wall comprising a plurality of elongate wall segments cooperating to form multiple crossing points at which different ones of the elongate wall segments cross each other;

wherein at a number of selected ones of the crossing points, said number being less than the total number of crossing points, pairs of the elongate wall segments crossing one another are shaped to form respective first and second elevations extended in the same direction radially away from the tubular mesh wall; and

wherein the elevations are arranged in at least one elevation pattern on the tubular mesh wall.

67. The prosthesis of claim 66 wherein:

said elevations extend radially outwardly from the braided tubular wall.

68. The prosthesis of claim 66 wherein:

the elongate wall segments include a first wall segment wound helically at a first pitch and a second wall segment wound helically at a second pitch different from the first pitch, and the at least one elevation pattern has a third pitch different from the first pitch and different from the second pitch.

69. The prosthesis of claim 66 wherein:

the tubular mesh wall has respective proximal and distal ends, and the elevations at the selected crossing points are arranged more densely near at least one of the proximal and distal ends as compared to along a medial region of the tubular mesh wall.

70. The prosthesis of claim 69 wherein:

the elevations are arranged in at least one helical elevation pattern on the tubular mesh wall.

71. The prosthesis of claim 69 wherein:

the elevations are arranged in at least one annular elevation pattern extending circumferentially about the tubular mesh wall.

72. The prosthesis of claim 71 wherein:

the at least one annular elevation pattern is disposed near one of the proximal and distal ends.

73. The prosthesis of claim 71 wherein:

the at least one annular elevation pattern includes a first annular elevation pattern near the proximal end, and a second annular elevation pattern near the distal end.

74. The prosthesis of claim 69 wherein:

the selected crossing points are arranged more densely near said proximal end and near said distal end, as compared to along the medial region.

75. The prosthesis of claim 74 wherein:

the at least one elevation pattern includes a first annular elevation pattern extending circumferentially about the tubular mesh wall near the proximal end, and a second annular elevation pattern extending circumferentially about the tubular mesh wall near the distal end.

76. The prosthesis of claim 66 wherein:

the tubular mesh wall comprises at least one wire wound to form said crossing points, and said elongate wall segments comprise different length-portions of the at least one wire.